NFIRS 5.0 Self Study Program Structure Fire Module: NFIRS 3

Objectives

After completing the Structure Fire Module the student will be able to:

- 1. Describe when the Structure Fire Module is to be used.
- 2. Demonstrate how to correctly complete various sections of the Structure Fire Module given scenarios of hypothetical incidents.

Pre-Test #3 - Structure Fire Module

All structures are buildings

1.

	(a) True (b) False
2.	A structure fire module is completed for a hostile file confirmed to a chimney.
	(a) True (b) False
3.	The Structure Fire Module is a required NFIRS Module.
	(a) True (b) False
4.	All buildings are structures.
	(a) True (b) False
5.	A Structure Fire Module should be completed for all structure fires that extend beyond a non-combustible container.
	(a) True (b) False

Using The Structure Fire Module

Using The Structure Fire Module

The Structure Fire Module furnishes information regarding the **buildings** involved in the fire, how the fire started, and detection and suppression equipment present.

The Structure Module (NFIRS-3) should be completed for all structure fires that extend beyond a non-combustible container. A structure is an assembly of materials forming a construction for occupancy or use to serve a specific purpose. This includes, but is not limited to, buildings, open platforms, bridges, roof assemblies over open storage or process areas, tents, air-supported structures, and grandstands. Like the other modules, the Structure Module is divided into sections and further subdivided into blocks. The sections and blocks ask for information on different factors or items involved in the building fire.

Section I

Section I: Structure Type, Building Status, Building Height

Block I1

l ₁		Structure Type 🛣
		If fire was in an enclosed building or a portable/mobile structure complete the rest of this form
1		Enclosed building
2		Portable/mobile structure /
3		Open structure
4		Air supported structure
5		Tent
6		Open platform (e.g. piers)
7		Underground structure (workareas)
8		Connective structure (e.g. fences)
0		Other type of structure

Block I_1 records information regarding the type of structure. If the fire is in an enclosed building, complete this entire module. The rest of the module would not be completed if the structure is:

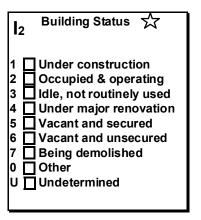
- An open structure such as a bridge
- An air supported structure
- A tent
- An open platform such as a pier, dock

- A connective structure such as a fence or pipeline
- An underground structure such as flood tunnel

Complete the Structure Module for enclosed buildings. Examples include: residential buildings, commercial buildings, a rail tunnel, subway system, highway tunnel, or similar structures. It must also be completed for portable/mobile structures such as job-site trailers, portable offices or similar structures.

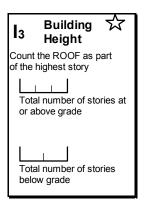
Information about the status of the building is collected in Block I_2 .

Block I2



Block I₂ captures the status of operation in the building involved in the fire.

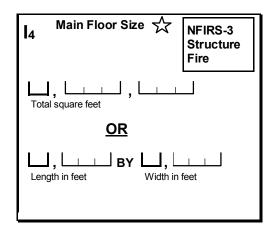
Block I₃



In Block I₃ enter the total number of stories at or above grade level, then enter the total number of stories below grade level. Do not count normally inaccessible attics, attics with less than standing height, or the roof as a story. **Both parts**

of I₃ must be completed without regard to how many floors were involved in the fire.

Block I4



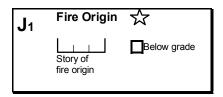
Block I₄ offers two options for indicating the main floor size. Enter either the number of square feet on the structure's main floor or its length and width in feet.

Section J

Section J: Fire Origin, Fire Spread, Number of Stories Damaged by Flame

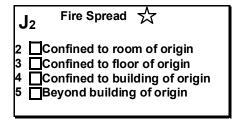
In Section J you will record data that will help describe where the fire started, whether or not it spread, and the percentage of the structure that was damaged by flame.

Block J_1



Enter the story on which the fire originated in Block J₁. This story number is assumed to be at or above grade unless the "Below Grade" box is marked. Count the ground level as story 1. In case of most residential basements, you would enter "1" for the "Floor of Origin" and then check the box to indicate it was below grade.

Block J_2



Block J_2 captures the extent of fire spread in terms of how far the flame damage extended. The extent of flame damage is the area actually burned or charred and does not include the area receiving only heat, smoke, or water damage. Mark the box best describing the extent of fire spread. If the fire spread was confined to the object of origin (1) and the box in Block D_3 on the Fire Module was marked, do not mark the box here.

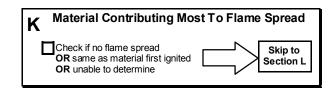
Block J_3

J 3	Number of Stories Damaged By Flame
	Count the ROOF as part of the highest story
Ш	Number of stories w/ minor damage (1 to 24% flame damage)
Ш	Number of stories w/ significant damage (25 to 49% flame damage)
L	Number of stories w/ heavy damage (50 to 74% flame damage)
Ш	Number of stories w/ extreme damage (75 to 100% flame damage)

Block J_3 captures the number of stories damaged by flame spread. Flame damage is the area actually burned or charred and does not include areas receiving only heat, smoke, or water damage.

Enter the number of stories damaged by flame according to the indicated criteria. If the roof was the only part of the structure that burned, count it as part of the top story. Section K

Section K: Material Contributing Most To Flame Spread



Section K is completed only if:

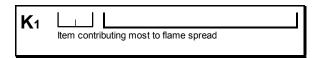
- 1. The flame spread is beyond the object of origin, and
- 2. The material contributing most to the flame spread is DIFFERENT from the Item First Ignited (recorded in D₃ of NFIRS 2 Fire Module).

If either one of these conditions does not apply mark the box and skip the rest of the section.

In Block K₁ you will enter the code for the "Item Contributing Most to Flame Spread." Fill in this item only if:

- 1. The flame spread beyond the object of origin, and
- 2. The item contributing most to flame spread is different from the "Item First Ignited."

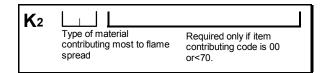
Block K₁



The codes used in this section are the same as those for the "First Item Ignited" and are found in the Quick Reference Guide.

You will used Block K₂ to record the "Type of Material Contributing Most to the Flame Spread."

Block K₂

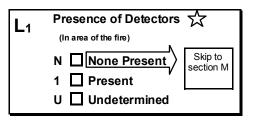


Complete this Block when the code for Type of Material is between 00 and 70. It is not necessary to supply this information when the type of material code is 70 or greater.

Section L

Section L: Presence of Detectors, Detector Type, Detector Power Supply, Detector Operation, Detector Effectiveness, Detector Failure Reason

Block L_1



In Block L_1 you should indicate the existence of detectors in the area of the fire. If no detectors were present, mark "None Present" and skip to Section M.

Block L₂

L ₂	Detector Type
2 3 4	Smoke Heat Combination smoke - heat Sprinkler, water flow detection More than 1 type present Other Undetermined

Use Block L_2 "Detector Type" to identify the type of detector present in the area of fire origin. This field is **required** if the fire was within the area covered by the detector.

Block L₃

L ₃	Detector Power Supply
1 2	☐ Battery only ☐ Hardwire only
3	☐ Plug in ☐ Hardwire with battery
5	Plug in with battery
6 7	☐ Mechanical ☐ Multiple detectors & power
0 U	supplies Other Undetermined

Use Block L_3 to describe the power supply for the detector that was found. This field is **required** if the fire was within the designed range of the detector.

Block L₄

L	L ₄ Detector Operation			
1		Fire too small to activate		
2		Operated	Complete Section L5	
3		Failed to operate	Complete Section L6	
U		Undetermined		

Block L_4 identifies whether or not the detection equipment worked. This field is **required** if the fire was within the designed range of the detector.

If the fire was too small to activate the detection equipment or the detector operation was undetermined then skip to Section M.

When the "Operated" Box (2) is marked, then a box in L_5 is marked to indicate the detector's effectiveness and Block L_6 can be skipped. If the "Failed to operate" Box (3) is marked, then skip to Block L_6 to show the reason for detector failure.

Block L₅

I 5	Detector Effectiveness
	Required if detector operated.
2	☐ Alerted occupants, occupants responded ☐ Occupants failed to respond ☐ There were no occupants ☐ Failed to alert occupants ☐ Undetermined

In Block L_5 mark the box best describing the effectiveness of the detector. This field is **required** if you checked box (2) in L_4 (Operated).

Block L_6

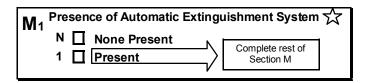
L ₆	Detector Failure Reason			
	Required if detector failed to operate			
1 2 3 4 5 6 0 U	Power failure, shutoff or disconnect Improper installation or placement Defective Lack of maintenance, includes cleaning Battery missing or disconnected Battery discharged or dead Other Undetermined			

In Block L_6 mark the box that best describes why the detector failed to operate or did not operate properly. this field is **required** if you checked box (3) in Block L_4 (Failed to operate).

Section M

Section M: Presence of Automatic Extinguishment System, Type of Automatic Extinguishment System, Automatic Extinguishment System Operation, Number of Sprinkler Heads, Automatic Extinguishment System Failure Reason

Block M_1



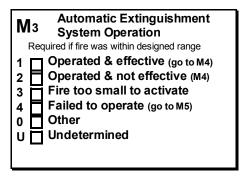
You must mark one of the boxes in Block M_1 for all buildings or protable/mobile structure fires. If no automatic extinguishing system was present check the "None Present" box and skip the rest of Section M. Complete the other parts of Section M only if an extinguishing system was present.

Block M₂

M ₂	Type of Automatic Extinguishment System Required if fire was within designed range of AES		
1 2 3 4 5 6 7 0 U	 Wet pipe sprinkler □ Dry pipe sprinkler □ Other sprinkler system □ Dry chemical system □ Foam system □ Halogen type system □ Carbon dioxide (CO₂) system □ Other special hazard system □ Undetermined 		

In Block M_2 mark the box indicating the type of Automatic Extinguishment System (AES) present. If multiple systems are present, indicate the system designed to protect the hazard where the fire started. The field is required if the fire was within the designated range fo the AES.

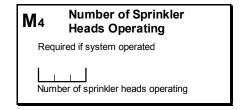
Block M₃



In Block M_3 mark the box that indicates if the AES operated and was or was not effective. Effective does not necessarily mean complete extinguishment, but the system must at least contain and control the fire until the fire department can complete extinguishment.

If Box 1 or 2 are marked in M₃, use M₄ to record the number of sprinkler heads that operated (regardless of their effectiveness).

Block M₄



In Block M_4 fill in the total number of sprinkler heads that operated during the fire. This field is **required** if the sprinkler system activated.

Block M₅

M ₅ Automatic Extinguishment System Failure Reason			
Required if system failed			
 System shut off Not enough agent discharged Agent discharged but did not reach fire Wrong type of system 			
5 ☐ Fire not in area protected 6 ☐ System components damaged 7 ☐ Lack of maintenance 8 ☐ Manual intervention			
			0
			U Undetermined
			NFIRS-3 Revision 01/19/99

In Block M_5 mark the box that describes why the automatic extinguishment system failed to operate or did not operate properly. This field is required if the system failed to operate. If you indicated in Block M_3 that the system "operated and not effective" Box 2 or "failed to operate" Box 4, it is required to record the reason for the problem in Block M_5 .

Summary

SUMMARY

The Structure Fire Module is used along with the Fire Module to gather detailed information about larger fire incidents that involve building or portable/mobile structures. This module discussed strategies important to correctly completing it. Given the information presented, you should know how to document an incident that requires the completion of the Structure Fire Module.

EXAMPLE - RESIDENTIAL FIRE

Directions: Read the call information in the example below. Then look at the completed Structure Fire Module Form. Look at each section and follow along with the proper use of the information as applicable to the Structure Fire Module.

A smoke detector in the first floor hallway alerted the residents of a single family dwelling of a possible problem. They quickly exited out the front door and reported seeing smoke coming from the basement. Children playing with matches started a fire in a small stack of newspapers that were in the basement of a ranch-style home, 30 feet by 50 feet. Luckily they were uninjured. There was fire damage in the basement and smoke damage on the first floor. The detector was hardwired with a battery backup. There was a residential wetpipe sprinkler system installed throughout the home. One sprinkler head activated.

If fire was in an enclosed building or a portable/mobile structure complete the rest of this form 1	ad & operating troutinely used najor renovation and secured and unsecured emolished $\begin{bmatrix} 0 & 1 \\ 0 & 1 \end{bmatrix}$ Total number of sto	ries at Total square feet OR I 0 I 0 3 0 RV 0 0 5 0
Count the RO' O O 1	of stories withinto ramage flame damage) of stories with significant damage % flame damage) K of stories with eavy damage % flame damage) K of stories with extreme damage	Item contributing most to flame spread
L1 N None Present Skip to section M 1 Present 2 Ha 3 Pl 4 Ha 5 Pl 6 M 7 M M M M M M M M	ttery only rdwire only ug in rdwire with battery ug in with battery uchanical ultiple detectors & power pplies her determined ector Operation too small to activate erated Complete Section L5 determined Complete Section L6 Complete Section L6 Complete Section L6 Complete Section L6	Required if detector operated. Alerted occupants, occupants responded Occupants failed to respond There were no occupants Failed to alert occupants Undetermined
M1 Presence of Automatic Extinguishment System N	M3 System Operation Required if fire was within designed 1 ☑ Operated & effective (g 2 ☐ Operated & not effective 3 ☐ Fire too small to activa 4 ☐ Failed to operate (go to) 0 ☐ Other U ☐ Undetermined M4 Number of Sprinkler Heads Operating Required if system operated \[\begin{array}{c} \(0 \) \(0 \) \(1 \) \\\\\\\\\\\\\\\\\\\\\\\\\\\\	range range range Required if system failure Reason Required if system failed 1 System shut off 2 Not enough agent discharged 3 Agent discharged but did not reach fire 4 Wrong type of system 5 Fire not in area protected 6 System components damaged 7 Lack of maintenance 8 Manual intervention 0 Other U Undetermined

EXERCISE SCENARIO 3-1 - WAREHOUSE FIRE

Directions: Read the call information in the exercise below. Use the information provided to complete the Structure Fire Module form. Compare your work to the answers provided on the subsequent completed Structure Fire Module form. If your answers are different from the ones provided, read over the Structure Fire Module again.

A fire occurred on the fifth floor of an eight story, vacant and secured warehouse. The 200-foot by 100-foot fifth floor was damaged by the fire. The sixth story was damaged by smoke. The warehouse was protected by a wet-pipe sprinkler system with water flow detection alarms. Detectors were hardwired through the main power box on the building's north end. Power to the warehouse was knocked out by an electrical storm moving through the area. Because it was after eight in the evening, no one was in the building to notice that the power was off or that a fire had started near where welders had been working on storage racks. Fortunately, two sprinkler heads activated and quickly extinguished the fire.

Structure Type	Total number of above grade douns the douns the ROOF of the highest stored or above grade dounsecured nolished	Structure Fire Structure Fire OR
J3 Count the ROOF at Number of state of the state of th	tories Damaged By Flame as part of the highest story stories w/ minor damage ame damage) stories w/ significant damage lame damage) stories w/ heavy damage lame damage) stories w/ extreme damage flame damage)	Material Contributing Most To Flame Spread OR came as material first ignited OR unable to determine K1
N None Present Skip to section M 1 Present 2 Hard 3 Plug 4 Hard 5 Plug 6 Mect 7 Multi supp 1 Smoke 2 Heat 3 Combination smoke - heat 4 Sprinkler, water flow detection 5 More than 1 type present 0 Other U Undetermined 1 Fire to Smoke 2 Indicate I	wire with battery in with battery nanical iple detectors & power olies or etermined tor Operation oo small to activate	Detector Effectiveness Required if detector operated. Alerted occupants, occupants responded Occupants failed to respond Failed to alert occupants Undetermined Detector Failure Reason Required if detector failed to operate Power failure, shutoff or disconnect Improper installation or placement Defective Lack of maintenance, includes cleaning Battery missing or disconnected Battery discharged or dead Other Undetermined
M1 Presence of Automatic Extinguishment System N	Automatic Exting System Operatio Required if fire was within desi Operated & effectiv Operated & not eff Fire too small to ac Failed to operate (c) Other U Undetermined M4 Number of Sprir Heads Operating Required if system operated Number of sprinkler heads op	mgned range //e (go to M4) ective (M4) ctivate go to M5) MI5 System Failure Reason Required if system failed 1

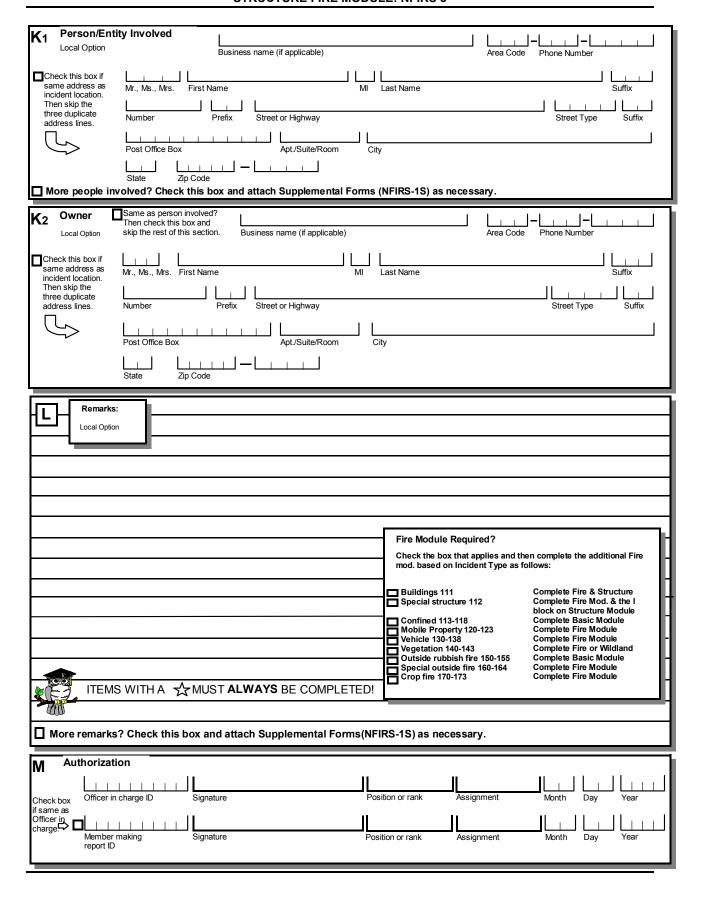
Structure Type	nstruction & operating outlinely used jor renovation discoured nolished $\begin{bmatrix} 13 & \text{Height} \\ \text{Count the ROOF} \\ \text{of the highest sto} \\ \hline 0 & 1 & 8 \\ \hline \text{Total number of above graded} \\ \hline 0 & 0 & 1 \\ \hline \text{Total number of above graded} \\ \hline 0 & 0 & 1 \\ \hline \text{Total number of above graded} \\ \hline 0 & 0 & 1 \\ \hline \text{Total number of above graded} \\ \hline 0 & 0 & 1 \\ \hline \text{Total number of above graded} \\ \hline 0 & 0 & 1 \\ \hline 0 & 0$	t state as part bry of stories at e e e e e e e e e e e e e e e e e e
Count the ROOF a Story of fire origin Story of fire origin Fire Spread Count the ROOF a O_0_0_1 1 Number of s O_10_1 0_1 0 Number of s O_5 to 49% f Confined to room of origin Confined to floor of origin	stories w/ significant damage lame damage) stories w/ heavy damage lame damage) stories w/ extreme damage	Material Contributing Most To Flame Spread Check if no flame spread OR same as material first ignited OR unable to determine K1
N None Present Skip to section M 1 Present 2 Hard 3 Plug 4 Hard 5 Plug 4 Hard 5 Plug 6 Mech 7 Multipulation None Present 1 Smoke 2 Heat 3 Combination smoke - heat 4 Sprinkler, water flow detection 5 More than 1 type present 0 Other U Undetermined 2 Operation Operation Comparison Combination Comb	wire with battery in with battery nanical iple detectors & power olies or etermined ctor Operation oo small to activate ated Complete Section L5 d to operate Complete Section L6	Detector Effectiveness Required if detector operated. Alerted occupants, occupants responded Cocupants failed to respond There were no occupants Failed to alert occupants Undetermined Detector Failure Reason Required if detector failed to operate Power failure, shutoff or disconnect Improper installation or placement Defective Lack of maintenance, includes cleaning Battery missing or disconnected Battery discharged or dead Undetermined
M1 Presence of Automatic Extinguishment System N None Present Extra Present None Present None Present None Present None Present None Present None Present Complete rest of Section M Section M Complete rest of Section M Section M None Present Complete rest of Section M Section M None Present Section M None Present Section M None Present Section M Section M Dry of Automatic Extinguishment System A Extra Present None Present Section M Dry of Automatic Extinguishment System A Extra Present Section M Section M Dry pipe sprinkler Other sprinkler system Section M Section	M3 System Operatio Required if fire was within desi 1 Operated & effectiv 2 Operated & not effectiv 3 Fire too small to ac 4 Failed to operate (c) 0 Other U Undetermined M4 Number of Sprinter desired if system operated [0 0 0 2 Number of sprinkler heads operating	n igned range ve (go to M4) ective (M4) ctivate go to M5) nkler g miximate go to M5 nkler g miximate solution Required if system failed 1

EXERCISE SCENARIO 3-2: CARY STREET FIRE

Directions: Read the call information in the exercise below. Use the information provided to complete the entire Structure Fire Module form and the other required forms. Compare your work to the answers provided in Appendix A. If your answers are different from the ones provided, read over the Structure Fire Module again.

The Alberta Fire Department (FDID 92188) responded to a reported house fire at 5 East Cary Street, Brunswick, Virginia 23351 on May 1. The dispatcher assigned the incident (#5433) to Engine Co. 3 from Shift A. The unit received the alarm at 12:53 p.m. and arrived at the scene at 1:05 p.m. with a four-person engine crew, a two-person truck crew, and a two-person pumper crew. The owner of the single family dwelling, Mrs. Christy Gordon, said that she was warming her lunch on the stove when the grease from the pan began to burn. The gas stove was a Whirlpool, Model RF330PXVN, Serial Number F925888840, Year 2000. The fire spread from the pan to the curtains. She fell asleep upstairs and was alerted when the hardwired smoke detector activated. The flame damage was confined to the kitchen. The 2,000 square feet, two-story home was filled with smoke in the other rooms. She called 911. The firefighters extinguished the fire and remove smoke from the other rooms. The fire was brought under controlled at 1:25 p.m. There was \$24,000 fire loss to property and \$9,600 content loss. The value of the property was \$161,000 and the content value was \$80,400. The last unit cleared the scene at 2:40 p.m. FF1 Adam C. Wallner, Badge No. 224, completed the report after returning to Station No. 2. Captain Tonya S. Gordon, Badge No. 105, was the officer in charge. The fire department keeps records on the location of all responses. The incident was in Census Tract 501.10, District A12.

MM DD FDID State Incident Date	YYYY
	V State Zip Code
C Incident Type	E1 Dates & Times Month Day Year Hour Min
F Actions Taken Primary Action Taken (1) Additional Action Taken (2) Additional Action Taken (3)	G1 Resources Check this box and skip this section if an Apparatus or Personnel form is used. Apparatus Personnel Suppression Check box if resource counts include aid received resources. G2 Estimated Dollar Losses & Values LOSSES: Required for all fires if known. Optional for non None Property \$
Completed Modules Fire-2 Structure-3 Civilian Fire Cas4 Fire Serv. Casualty-5 EMS-6 HazMat-7 Wildland Fire-8 Apparatus-9 Personnel-10 Arson-11 H1 ☆ Casualties Deaths Fire Service Livilian Civilian Livilian Detector Required for confined Detector did not alk Unknown	Injuries N None 1 Natural gas: slow leak, no evacuation or HazMat actions 2 Propane gas: <21 lb. tank (as in home BBQ grill) 3 Gasoline: vehicle fuel tank or portable container 4 Kerosene: fuel burning equipment or portable storage 5 Diesel fuel/fuel oil: vehicle fuel tank or portable storage 6 Household solvents: home/office spill, cleanup only 7 Motor oil: from engine or portable container 8 Paint: from paint cans totaling <55 gallons 6 Military use
J Property Use	Clinic, clinic type infirmary 539



Α	Complete this side for all fires FDID State Incident Date	YYYY 	Station Incident Number	Exposur	Delete NFIRS - 2 Fire	
B B ₁	Property Details Not Residential Estimated number of residential living units in building of origin whether or not all units became involved		C On-Site Materials or Products Enter up to three codes. Check one entered. On-site material (1)	None e box for each code	Complete if there were any significant amounts of commercial, industrial, energy or agricultural products or materials on the property, whether or not they became involved 1 Bulk storage or warehousing 2 Processing or manufacturing 3 Packaged goods for sale	
B ₂	Number of buildings involved Buildings not involved		On-site material (2) On-site material (3)		A Repair or service Bulk storage or warehousing Processing or manufacturing Repair or service Bulk storage or warehousing Repair or service Bulk storage or warehousing Processing or manufacturing Repair or service	
D	Ignition	I I I I	Cause of Ignition 😾	N Skin to	E ₃ Human Factors	
D ₁	1 - 11		Check box if this is an exposure repo	rt. Skip to Section G	Check all applicable boxes None	
D ₁	Area of fire origin Area of fire origin Heat source	2 U 3 DF: 4 DA 5 DC	nintentional nintentional ailure of equipment or heat ct of nature ause under investigation ause undetermined after in		1	
Dз	Item first ignited 1 Check box if fire spread was	E ₂ F	actors Contributing To Ignit	tion None	- 5	
D4	Type of material first ignited Required only if item first ignited code is 00 or <70		contributing to ignition (1)		Age was a factor Estimated age of person involved Male Person in Male	
F1 Equip Brann Mode Seria		F3 Portab one pe	Equipment Power Source Int Power Source Equipment Portability Portable Stationary Ide equipment normally can be moved by rison, is designed to be used in multiple rise, and requires no tools to install.	G	ctor (2)	
ш.	Mobile Property Involved	ı. Mo	obile Property Type & Make	Loca	l Use	
	Not involved in ignition, but burned Involved in ignition, but did not burn Involved in ignition and burned ile property model	Mobile pr	operty type operty make Year	Som	Pre-Fire Plan Available e of the information presented in this report be based upon reports from other agencies: Arson report attached Police report attached Coroner report attached Other reports attached	
Lice	License Plate Number State VIN Number Structure fire? Please be sure to complete the other side of this form.					
4	NFIRS-2 Revision					

Structure Type	Count the ROOF of the highest store to renovation secured unsecured blished	Fas part ory of stories at e OR OR
J1 Story of fire origin J2 Fire Spread Count the ROOF as Number of sto (1 to 24% flan Number of sto (25 to 49% flan Number of sto (50 to 74% flan	ories w/ significant damage me damage) ories w/ heavy damage me damage) ories w/ extreme damage	K Material Contributing Most To Flame Spread Check if no flame spread OR same as material first ignited OR unable to determine K1 Lem contributing most to flame spread K2 Type of material contributing most to flame spread Required only if item contributing code is 00 or<70.
N None Present Skip to section M 1 Present 1 Hardw 3 Plug in 4 Hardw 5 Plug in 4 Hardw 5 Plug in 6 Mecha 7 Multip Suppli 1 Smoke 2 Heat 3 Combination smoke - heat 4 Sprinkler, water flow detection L4 Detector L4 Combination smoke L4 Detector L4 Combination L4 Detector L4 Combination L4 Combination L4 Combination L4 Combination L4 Combination Combination L4 Combination L4 Combination L4 Combination Combination L4 Combination Combination	rire only n rire with battery n with battery nnical le detectors & power es ermined or Operation o small to activate ed Complete Section L5 co operate Complete Section L6	Detector Effectiveness Required if detector operated. Alerted occupants, occupants responded Occupants failed to respond There were no occupants Failed to alert occupants Undetermined Detector Failure Reason Required if detector failed to operate Power failure, shutoff or disconnect Improper installation or placement Defective Lack of maintenance, includes cleaning Battery missing or disconnected Battery discharged or dead Other Undetermined
M1 Presence of Automatic Extinguishment System N None Present 1 Present Complete rest of Section M Type of Automatic Extinguishment System Required if fire was within designed range of AES Wet pipe sprinkler Dry pipe sprinkler Dry chemical system Dry chemical system Foam system Halogen type system Carbon dioxide (CO ₂) system Other special hazard system Undetermined	M3 Automatic Exting System Operation Required if fire was within desi 1 Operated & effectiv 2 Operated & not effectiv 3 Fire too small to act 4 Failed to operate (good of the Undetermined) M4 Number of Sprint Heads Operating Required if system operated	MI5 System Failure Reason Required if system failed 1 System shut off Sy

Structure Module Test

- 1. The building height of a house with two stories, full attic (two rooms), and a full basement.
 - (a) Two stories
 - (b) Three stories
 - (c) Four stories
 - (d) Three stories above grade; one story below grade
- 2. The main floor size of the 40,000 total square feet house in Question #1.
 - (a) 40,000 square feet
 - (b) 20,000 square feet
 - (c) 10,000 square feet
 - (d) 50,000 square feet (adding the roof)
- 3. Battery and Hardwire are examples of this data element.
 - (a) Equipment Involved in Ignition
 - (b) Detector Operation
 - (c) Detector Power Supply
 - (d) Detector Type
- 4. Under construction and being demolished are examples of this data elements.
 - (a) Actions Taken
 - (b) Building Status
 - (c) Structure Type
 - (d) Cause of Ignition
- 5. A fire on a pier needs these modules.
 - (a) Basic and Fire
 - (b) Basic, Fire, and only Structure Type on the Structure Module
 - (c) Basic, Fire, and Structure
 - (d) Basic